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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.         | CONFIRMATION NO. |
|--|-------------|----------------------|-----------------------------|------------------|
| 10/816,988   | 04/01/2004  | Robert L. Heimann    | EL023RH-1 CON               | 2018             |
| 7590 09/09/2004<br>ORSCHELN MANAGEMENT CO<br>2000 US HWY 63 SOUTH<br>MOBERLY, MO 65270 |             |                      | EXAMINER<br>JOLLEY, KIRSTEN |                  |
|  |             |                      | ART UNIT<br>1762            | PAPER NUMBER     |
| DATE MAILED: 09/09/2004  |             |                      |                             |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |                                       |  |
|------------------------------|--------------------------------------|---------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/816,988 | <b>Applicant(s)</b><br>HEIMANN ET AL. |  |
|                              | <b>Examiner</b><br>Kirsten C Jolley  | <b>Art Unit</b><br>1762               |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities: The first paragraph of the specification should be updated to indicate the published patent number of the parent application.

Appropriate correction is required.

### ***Claim Objections***

2. Claim 12 is objected to because of the following informalities: The period is missing at the end of claim 12. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 7, 10, 11, and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 is vague and indefinite because it contains improper Markush language.

The Examiner suggests adding --consisting-- after "group" and before "of" in line 2.

Additionally, claim 7 requires applying an adherent composition. It is not clear when this composition is applied and where (i.e., is it applied to the substrate or treated substrate, before or after the treatment?).

Claim 10 is vague and indefinite because it is directed to a composition claim, however the claim is dependent upon a method claim. It appears that "medium" in line 1 should be --method--. For the purpose of examination, claim 10 has been interpreted as being directed to a method limitation. Additionally, in claim 10, lines 1-2, there is no antecedent basis for the limitation "said water soluble compounds."

Claim 11 is vague and indefinite because it does not indicate which claim it is dependent on. Additionally in claim 11, there is no antecedent basis for "the metal surface."

Claim 14 recites the limitation "the metal surface" in line 2. There is insufficient antecedent basis for this limitation in the claim.

### ***Double Patenting***

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-19 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 6,753,039.

Although the conflicting claims are not identical, they are not patentably distinct from

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each other because the claims of the instant application are broader than, and thus inclusive of, the method claimed in U.S. Patent No. 6,753,039.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-2, 4-12, 15-16, and 18-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Maurer et al. (US 3,444,007).

Maurer et al. is cited for its teaching of applying to an electrically conductive zinc surface an aqueous metal treatment solution comprising sodium molybdate or cerium nitrate and sodium hydroxide, wherein the solution has an alkaline pH of 12.6-13.3 and does not require chromium (col. 2, lines 12-22 and Table IV).

As to claim 10, the cerium nitrate and sodium molybdate read on the claimed cerium nitrate hydrate or sodium molybdate hydrate since cerium nitrate and sodium molybdate are in their hydrate form in aqueous solution. As to claim 12, water is a diluent.

As to claim 2, Maurer et al. teaches that solution temperatures of 130-180 F, or 54-82 C, may be used (col. 4, line 6), which anticipates Applicant's claimed range.

As to claim 5, Maurer et al. teaches drying the coating at a temperature of 375 F, or 191 C in col. 5, lines 13-14.

As to claims 6-7, Maurer et al. teaches painting on top of the coated zinc substrates, particularly using Dulux 707-6741 paint in col. 5, lines 14-15. Dulux paint is an alkyd paint. (See cited Russell et al. reference in section 10 below for the teaching that "Dulux" is a trademark name for DuPont alkyd paints.)

As to claim 8, Maurer et al. states that "Satisfactory results have been obtained from the use of solutions containing the sodium ion and at least one other ion from the group comprising ... tin..." (col. 2, lines 59-65). This teaching is inclusive of sodium stannate.

As to claim 15, Maurer et al. teaches rinsing and drying the metal surface at a temperature after coating. As to claim 19, the environment of Maurer et al. is electroless.

As to claim 18, cleaning the substrates with a conventional titanated cleaner prior to coating meets the limitation of claim 18.

9. Claims 1, 3-4, 11-12, 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Hanagata et al. (US 5,057,335).

Hanagata et al. teaches a method of treating a metal substrate, wherein the aqueous treatment composition includes a stannate, molybdate, or vanadate and colloidal silica, and has an alkaline pH of preferably 10-14 (col. 2, lines 19-56). Hanagata et al.

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teaches that the composition is used for treating stainless steel, copper, iron, or aluminum surfaces.

10. Claims 1-2, 4-7, 11-15, and 18-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Heimann et al. (US 6,592,738).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Heimann et al. discloses a method of contacting a metal substrate with an aqueous medium having a basic pH and silicate compound and further comprising a dopant of water-soluble salt or oxide of molybdenum or vanadium (which is a molybdate or vanadate) (col. 4, lines 26-35; col. 8, lines 14-58). The limitations of claim 2, 4-7, 11-15, and 18-19 are taught by Heimann et al. in col. 4-13.

### ***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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12. Claim 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maurer et al.

As to claim 13, Maurer et al. is applied for the reasons set forth above in section 8. Maurer et al. teaches that "Good results have also been obtained from high concentration of the metal ion or ions" (col. 2, line 70 to col. 3, line 5). However, Maurer et al. does not provide any direction as to what is a "high concentration." It would have been obvious for one having ordinary skill in the art to have determined the optimum metal ion concentration through routine experimentation in the absence of a showing of unexpected results.

As to claim 17, Maurer et al. states that "Based on the experimental evidence on hand, it is believed that *any metal ion*, other than an alkali metal ion which is complexed and in solution functions to improve the formation of the desired coating..." [emphasis added] (col. 2, lines 53-59). It is also noted that Maurer et al. teaches using vanadate ions in the formulations Table III. It is the Examiner's position that it would have been obvious for one having ordinary skill in the art to have used any metal ion (other than an alkali metal ion), and specifically any vanadate ion, such as ammonium metavanadate, with the expectation of successful results upon seeing the teachings of Maurer et al.

13. Claims 5, 8-10, 13, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanagata et al.

As to claims 5 and 15, it is the Examiner's position that contacting the coating with a laser will necessarily dry the coating. Hanagata et al. teaches that the temperature of the substrate is increased due to the laser, and the laser may be operated at 2-100 C. It



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is the Examiner's position that a laser operated at 100 C for a period of time would cause the substrate's temperature to raise to a temperature even greater than 100 C. Further, the temperatures of Hanagata et al. are merely exemplary and not limiting. It would have been obvious for one having ordinary skill in the art to have determined the optimum substrate temperature through routine experimentation in the absence of a showing of criticality.

As to claims 8-10 and 17, Hanagata et al. does not disclose the particular metal compounds claimed; Hanagata et al. merely teaches the use of stannates, molybdates, and vanadates in general. It would have been obvious for one skilled in the art to have supplied stannate, molybdate, or vanadate compounds in a commercially-available stable chemical form, such as the claimed compounds, in the absence of a teaching of particular compounds to be used.

As to claim 13, Hanagata et al. teaches that the compounds may be present in an amount of 0.1-90 wt%, or preferably 3-25 wt %. Overlapping ranges are *prima facie* evidence of obviousness. It would have been obvious to one having ordinary skill in the art to have selected the portion of Hanagata et al.'s amount range that corresponds to the claimed range. *In re Malagari*, 184 USPQ 549 (CCPA 1974).

14. Claim 9-10 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heimann et al.

Heimann et al. does not disclose the particular metal compounds claimed -- sodium molybdate and ammonium metavanadate; Heimann et al. merely teaches the use of oxides of molybdenum and vanadium in general. It would have been obvious for one

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skilled in the art to have supplied the molybdate or vanadate compounds in a commercially-available stable chemical form, such as the claimed compounds, in the absence of a teaching of particular compounds to be used since Heimann et al. is not limited to the molybdate or vanadate compounds that must be used.

### ***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Russell et al. (US 3,819,424) is cited for its teaching in col. 3, line 59 that "Dulux" is a trademark of DuPont for alkyd paint.

Fontana (US 6,183,649) is cited for its teaching of applying a composition meeting the limitations of claim 1. Fontana teaches an aqueous, basic treatment medium comprising water, sodium hydroxide, sodium molybdate, and a dispersible polymer.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kirsten C Jolley whose telephone number is 571-272-1421. The examiner can normally be reached on Monday to Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P Beck can be reached on 571-272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kirsten C Jolley  
Patent Examiner  
Art Unit 1762

kcj